Author: Pennsylvania Ten-ton Tomato Club

Title: Report for the year 1941

Place of Publication: [State College, Pa.]

Copyright Date: 1941

Master Negative Storage Number: MNS# PSt SNPaAg247.4

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PENNSYLVANIA

Ten-Ton Tomato Club

Report for the Year 1941

INV. '60

ACKNOWLEDGEMENTS

Pennsylvania Canners Association

Awards

ONE SILVER CUP

for

Highest Quality from two or more acres

ONE SILVER CUP

for

Largest Yield from two or more acres

CAMPBELL SOUP COMPANY

CAMDEN, NEW JERSEY

CHEF BOY-AR-DEE

Quality Foods, Inc.

MILTON, PENNSYLVANIA

THE GREENCASTLE PACKING COMPANY

Packers of Gren-Pac Quality Canned Foods

GREENCASTLE, PENNSYLVANIA

ADAMS APPLE PRODUCTS CORPORATION

ASPERS, ADAMS COUNTY, PA.

D. E. WINEBRENNER COMPANY

Demco Brand Quality Canned Vegetables

HANOVER, PA.

Further Acknowledgements on pages 34 and 35

The Pennsylvania Ten-Ton Tomato Project

Sponsored by

The Pennsylvania Vegetable Growers' Association

TEN-TON TOMATO CLUB COMMITTEE:

H. W. HUFFNAGLE, Quarryville, Pa., *Chairman*

ALAN R. WAREHIME, Hanover, Pa.

JESSE M. HUFFINGTON, State College, Pa., *Secretary*

PURPOSE

The production of high quality tomatoes with large yields per acre and efficient use of labor and cash in growing, harvesting and marketing the crop is encouraged by reporting actual practices of successful growers.

MEMBERSHIP

All tomato growers in Pennsylvania producing one or more acres, whose receipts for tomatoes sold from these acres to the cannery, or in the open market, show a production of 10 or more tons per acre with 60 per cent or more U. S. Number one grade, are eligible for membership, provided a satisfactory record of production practices and evidence of acreage is presented to the Committee. Record forms for keeping such accounts may be obtained from the County Agent at the beginning of the season, upon request by the individual interested in improving his practices of tomato production.

The committee in 1941 revised the requirements, allowing growers producing only one instead of two acres to receive certificates. Growers producing less than 60 per cent U. S. one grade of tomatoes, or whose grade is unknown, are given recognition by publishing their names under the heading, "Incomplete." Among this group, growers whose records are included in the summary, are marked with an asterisk (*).

Certificates of membership are awarded to members who meet the qualifications satisfactorily. Additional awards are made in proportion to the funds available.

The requirements of membership may be revised by the committee and suggestions are appreciated.

DOMESTIC RYEGRASS AND MANURE ON CORN STUBBLE GROUND PRECEDING TOMATOES

The domestic ryegrass was seeded in the corn, at the last cultivation. The addition of about 200 pounds of nitrogen-carrying fertilizer early in the spring before plowing, will hasten the decay of grass and crop remains.

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INTENTIONAL SECOND EXPOSURE

Distribution of Ten-Ton Tomato Growers by Counties in 1941

County	Complete 60% U.S. 1 and Record	Incomplete Under 60% U.S. 1 or No Record	Total	Culture Records
Adams	3	23	26	3
Berks	13	1	14	13
Bucks	86	37	123	120
Carbon	1		1	1
Chester	25	1	26	26
Columbia	8		8	8
Cumberland	9	1	10	10
Delaware	1		1	1
Erie	0	11	11	3
Franklin	22	5	27	25
Juniata	9	6	15	9
Lackawanna	0	3	3	3
Lancaster	107	50	157	117
Lebanon	44	2	46	46
Lehigh	4	0	4	4
Luzerne	2	10	12	7
Lycoming	6	2	8	6
Mifflin	2	17	19	3
Montgomery	15	3	18	18
Montour	12	2	14	12
Northampton	1		1	1
Northumberland	2		2	2
Perry	0	1	1	1
Philadelphia	3		3	3
Schuylkill	5	2	7	7
Snyder	8	2	10	8
Union	6	0	6	6
Wyoming		1	1	1
York	1	36	37	2
	396	216	612	466

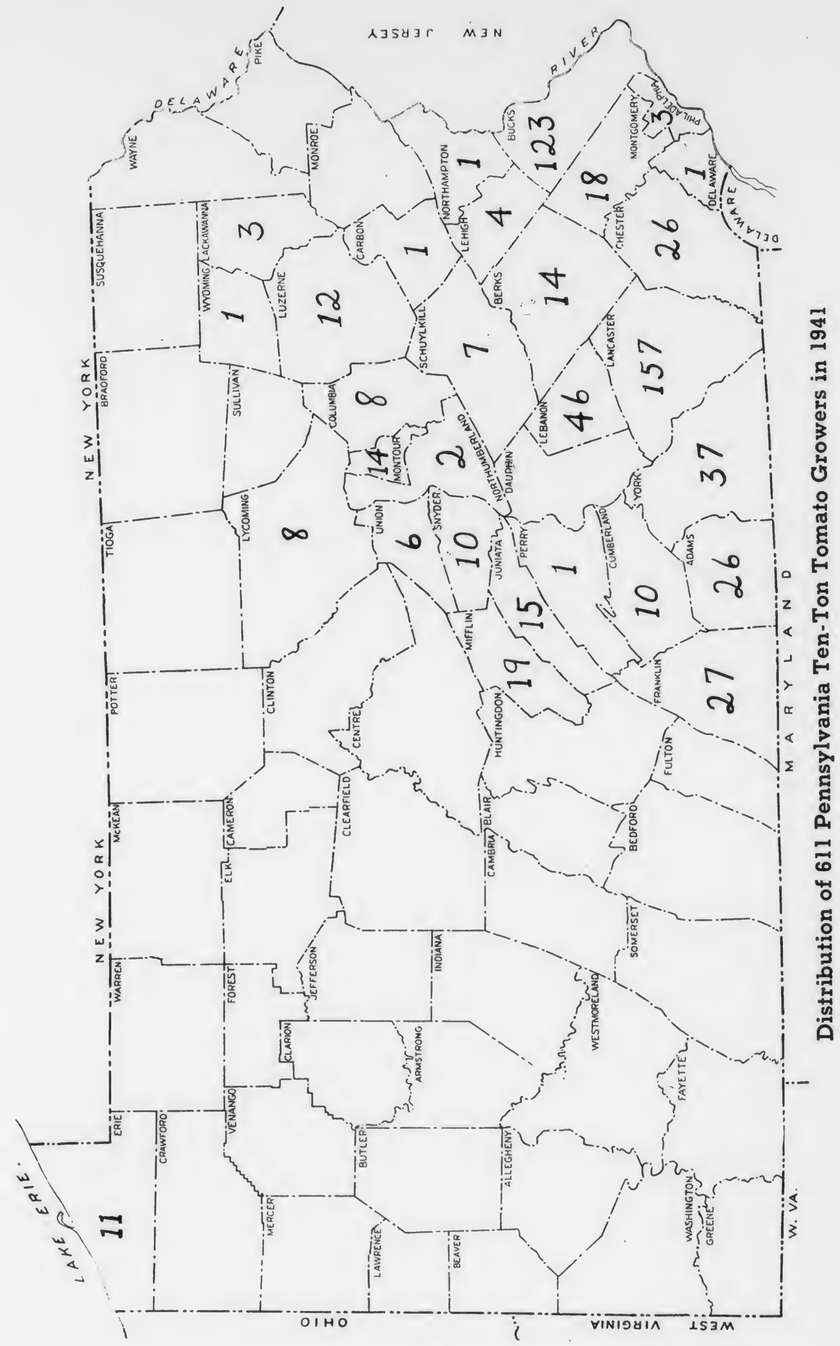
Growers Obtaining Highest Quality

Two or more acres

	Acres	Tons Per Acre	U. S. Grade % 1st	2nd	Culls
First—Lancaster County Shelly, Ephriam S., Manheim, R. 1	3	17.33	90	10	0
Second—Lancaster County Brubaker, Isaac M., Lititz, R. 2	4.5	11.30	90	10	0
Third—Columbia County Reeder, Jos. T., Catawissa, R. 3	2	11.1	88	11	1
Fourth—Lancaster County Snavely, Mrs. Susan W., Manheim, R. 1	2	10.67	88	12	0
Fifth—Lancaster County Ditzler, Melvin B., Lititz, R. 1	3	10.38	88	12	0

One or more acres

Lycoming County Keller, Commodore, Montoursville, R. 2	1.5	10.95	92	8	0



Distribution of 611 Pennsylvania Ten-Ton Tomato Growers in 1941

Methods Used in Producing High Quality Tomatoes

by EPHRIAM S. SHELLY, Manheim, R. 1

First—Lancaster County

VARIETY—Marglobe, Rutgers (preferred)
PLANTS—Georgia field, set at once
MANURE—12 tons stable in fall, 12 tons each three preceding years.
SOIL—Medium gravelly loam.
ROTATION—Corn, tobacco, tomatoes, tomatoes.
PLOWED—April 9, 6 inches, harrowed 11 times, rolled 5.
FERTILIZER—900 lbs. 3-12-6, broadcast 500, 400 lbs. side dressed. Plant starter used, liquid phosphoric acid, 2 gallons on three acres.
PLANTING—May 19, transplanter water, soil dry, 98% stand, 4 x 3 feet. Cultivation shallow, ridged 2 times.

by ISAAC M. BRUBAKER, Lititz, R. 2

Second—Lancaster County

VARIETY—Rutgers, Marglobe
PLANTS—Georgia field, locally from Glick for replanting.
MANURE—Mixed, 13 tons.
ROTATION—Wheat, with sweet clover, corn with sweet clover, tomatoes.
PLOWING—March and May 5, 8 inches, harrowed 4 times.
FERTILIZER—500 lbs. 0-28-12, 400 broadcast, 100 side of row.
PLANTING—May 14, with transplanter, water applied, 87½ and 98% final stand, spaced 4½ x 3½ feet.
CULTIVATION—Shallow, 3 times, part of field weeded by hand.

by JOS. T. REEDER, Catawissa, R. 3

Third—Columbia County

VARIETY—Rutgers
PLANTS—Local greenhouse-frame transplants.
MANURE—13 tons per acre.
SOIL—Red shale loam.
ROTATION—Oats, wheat, clover, tomatoes.
PLOWED—April 15, depth 8-9 inches.
FERTILIZER—4-12-4, 600 lbs. per acre, side of row.
PLANTING—May 27-28, transplanter.
CULTIVATION—Four times, deep, then shallow, hand weeded once, dusted.

by MRS. SUSAN W. SNAVELY, Manheim, R. 1

Fourth—Lancaster County

VARIETY—Rutgers
PLANTS—Georgia field, set at once.
MANURE—6 tons cow, also applied in 1940.
ROTATION—Wheat, hay, corn, tomatoes.
PLOWED—April 10, 8 inches, harrowed 3 times, rolled 3 times.
FERTILIZER—700 of 3-12-6, 500 broadcast, 200 side dressed.
PLANTING—May 20, transplanter in dry soil with water, stand 90 and 95%.
CULTIVATION—Deep 1, shallow 1, ridged 1, single 1, hand weeded 1.

by MELVIN B. DITZLER, Lititz, R. 1

Fifth—Lancaster County

VARIETY—Rutgers and Pritchard. Seed treated with Ceresan.
PLANTS—Georgia field grown, sprayed five times with red oxide of copper, set at once.
MANURE—10 tons of cow manure per acre.
ROTATION—Corn preceding tomatoes.
FERTILIZER—650 lbs. of 2-12-6 per acre applied broadcast.
PLANTS—Set with transplanter, water applied in a dry soil.

Highest Quality on Any Acreage

by COMMODORE KELLER, Montoursville, Pa.

Lycoming County

VARIETY—Rutgers
MANURE—10 tons per acre, mixed; and 10 tons the three preceding years.
ROTATION—Truck three preceding years.
WINTER COVER—Wheat and vetch, preceding tomatoes.
SOIL PREPARATION—Plowed April 15, 7½ inches deep, harrowed seven times, dragged two times.
FERTILIZER—3-12-6, 567 pounds broadcast per acre.
PLANTING—May 20-25, hand, water applied, soil dry, cutworms, 95% stand before and 98% after replanting, spaced 3½ x 4 feet. Dusted once with Bordeaux dust.
CULTIVATION—Deep, then shallow, five times, no hand weeding.

TOMATOES PLANTED ON THE CONTOUR ALTERNATING WITH SOD STRIPS

On sloping land this practice helps to prevent soil erosion. The tomato strips should not be more than 20 rows wide to be effective in preventing soil losses as well as for convenience in loading the harvested crop.

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FERTILIZER—900 lbs. 3-12-6, broadcast 500, 400 lbs. side dressed. Plant starter used, liquid phosphoric acid, 2 gallons on three acres.
PLANTING—May 19, transplanter water, soil dry, 98% stand, 4 x 3 feet. Cultivation shallow, ridged 2 times.

by ISAAC M. BRUBAKER, Lititz, R. 2

Second—Lancaster County

VARIETY—Rutgers, Marglobe
PLANTS—Georgia field, locally from Glick for replanting.
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On sloping land this practice helps to prevent soil erosion. The tomato strips should not be more than 20 rows wide to be effective in preventing soil losses as well as for convenience in loading the harvested crop.

INTENTIONAL SECOND EXPOSURE

Growers Producing Largest Yields

Two or more acres

	Acres	Tons Per Acre	U. S. Grade % 1st	2nd	Culls
First—Lehigh County Bender, L. J., Allentown, R. 4	3	25.32	82	17	1
Second—Schuylkill County Hiesler, Arthur S., Tamaqua, R. 1	4.5	23.54	69	30	1
Third—Bucks County Garges, Howard, Chalfont, R. D.	5	21.04	71	27	2
Fourth—Northumberland County Lahr, J. A., Sunbury, R. 1	2.25	20.78	75	25	0
Fifth—Bucks County Hunsberger, Rachel D., Chalfont, R. D.	6	20.47	75	24	1

Largest acreage on any farm

Bucks County Starkey Farms Company, Morrisville	75	14.86	69	29	2

Methods Used in Producing Large Yields of Tomatoes

by L. J. BENDER, Allentown, R. 4

First—Lehigh County

VARIETY—Landreth, Rutgers.

MANURE—6 tons, stable, applied in spring.

SOIL—Very fertile medium loam, corn preceded tomatoes, plowed April 8, disced 3 times.

FERTILIZER—1,000 lbs. per acre, 0-14-6 in row with potato planter.

PLANTING—May 4, by hand, in moist soil, no water applied, stand before replanting 80% Rutgers, 95% Landreth, spacing 4 x 4 feet.

CULTIVATION—Three times, shallow, with slight ridge, weeded by hand once.

by ARTHUR S. HIESLER, Tamaqua, R. 1

Second—Schuylkill County

VARIETY—Rutgers, Marglobe. Seed treated with Ceresan, Campbell Soup Company.

PLANTS—Campbell Soup Company, Georgia field. Sprayed 5 times with red oxide of copper.

MANURE—10 tons cow.

ROTATION—Alfalfa and timothy sod two years preceding tomatoes.

PLOWED—April, 9 inches, harrowed 2 times.

FERTILIZER—950 lbs. 4-16-4, 650 broadcast, 200 in row. Plant starter, 6-24-6.

PLANTING—May 18, planter, with water, 96% stand, 5 x 3 feet.

CULTIVATION—Shallow after the first time, four times, no hand weeding.

by HOWARD GARGES, Chalfont

Third—Bucks County

VARIETY—Marglobe, Rutgers (larger)

PLANTS—Georgia field, set at once.

MANURE—10 tons chicken in the fall and 10 tons stable in the spring.

SOIL—Medium to light loam.

ROTATION—Oats, wheat, hay and corn, tomatoes.

LIME—1,000 lbs., hydrated.

FERTILIZER—600 lbs. 4-12-4 in the row. Plant starter was used.

PLANTING—May 16, planter water applied in dry soil, 92% stand, 43 x 48 inches.

CULTIVATION—Shallow excepting the first time, slight ridge, four times, weeded once.

by J. A. LAHR, Sunbury, R. 1

Fourth—Northumberland County

VARIETY—Rutgers and Pritchard.

PLANTS—Georgia field, set at once.

MANURE—10 tons, mixed, applied in fall.

SOIL—Firestone medium loam.

ROTATION—Corn, oats, wheat, tomatoes.

SOIL PREPARATION—Plowed April 5, 8 inches deep.

FERTILIZER—200 lbs. 4-16-4 and an equal amount of chicken manure, applied in the row.

PLANTING—May 12, transplanter, some killed by frost, 95% stand, spaced 4 x 4 feet.

CULTIVATION—5 times, shallow, weeded once.

by RACHEL D. HUNSBERGER, Chalfont, R. D.

Fifth—Bucks County

VARIETY—Marglobe, Rutgers (preferred)

PLANTS—Georgia field, stored one day, one bunch removed from each basket.

MANURE—15 tons cow manure applied in winter.

ROTATION—Hay, corn and potatoes, corn, tomatoes.

COVER CROP—Rye.

PLOWING—April 20, 8 inches deep, harrowed 4 times, rolled twice.

LIME—1,500 lbs. per acre, hydrated.

FERTILIZER—1,000 lbs. per acre, 600 of 2-12-6 side of row at planting and 400 of 5-10-10 side dressing. Plant starter was used.

PLANTING—May 14, with transplanter, in dry soil with water, 95% stand, 44 x 48 inches.

CULTIVATION—Shallow excepting the first time, ridged one time, four and one-half times, no hand weeding.

Largest Yield on 75 Acres

by STARKEY FARMS CO., Inc., Morrisville, Pa.

Bucks County

SEED—Treated with Ceresan.

PLANTS—Georgia field grown, set at once.

SOIL—Sandy to silt loam.

ROTATION—Vegetables preceding tomatoes.

COVER CROP—Rye preceding tomatoes.

FERTILIZER—Cyanamid, 200 lbs. per acre, broadcast on cover crop one month before plowing, and 2-10-10, 1,000 lbs. per acre, broadcast. Muriate of potash, 150 lbs. per acre applied after planting. Plant starter, 8-24-8, used, 16 pounds per acre.

PLANTING—May 5-7, water applied, 97% stand, spaced 5 x 3 feet. Twenty acres dusted once.

★ ★ ★

WHEAT WITH TIMOTHY AND CLOVER FOLLOWING TOMATOES

The practice of seeding wheat as a nurse crop for timothy and clover saves fertilizer left from the tomato crop, prevents soil erosion and loss of organic matter.

Pennsylvania Ten-Ton Tomato Growers in 1941

Name and Address	*Acres Pltd.*	*Tons Per Acre*	*U. S. Grade % 1st*	*2nd*	*Culls*
ADAMS COUNTY					
Funt, Harry, Biglerville, R. D.	2	13.86	69	31	
Groft, Wm., Hanover, R. D. 4	2.2	10.75	66	32	2
Sheaffer, Amos, Gardners	7.5	15.75	67	30	3
Incomplete (1)					
Brough, Glenn, Aspers	4	11.02	72	27	1
Asper, Paul, Aspers	4	10.25	77	22	1
Baldwin, George, Biglerville	3	10.33	82	17	1
Black, Waybright, Aspers	3	15.5	68	31	1
Davis, Sarah, Gardners, R. D.	5	12.67	66	34	
Dunlap, Harry, Biglerville	4	11.05	77	22	1
Fair, Harrison, Gardners	2	12.35	85	14	1
Garretson, Lloyd, Biglerville	4	15.82	78	21	1
Garretson, Robert, Floradale	2	10.15	74	25	1
Gochenour, Joe D., Biglerville	4.5	11.80	72	26	2
Golden, C. I., Gardners	3.5	10.37	68	31	1
Knouse, A. Dale, Biglerville	4	14.32	82	17	1
McDannel, Harry, Arendtsville	1.5	10.12	75	25	
Pitzer, Earl, Biglerville	6	13.46	76	23	1
Rinehart, Roy, Gardners	1	16.27	80	19	1
Schriver, Howard, Gardners	3	11.95	63	36	1
Showers, Ray, Biglerville	3.5	12.62	78	21	1
Slusser, Vernon, Gardners, R. D.	2	10.55	56	44	
Smith, William, Aspers	2	14.51	60	38	2
Taylor, Gerald, Biglerville	4.5	10.38	69	30	1
Tuckey, Jesse, Biglerville	3	12.90	66	33	1
Warren, Lewis, Aspers	2	15.32	68	28	4
Weaver, C. C., Aspers	2.5	11.58	80	20	
BERKS COUNTY					
Beiler, John Z., Morgantown, Box 43	5.75	11.5	61	38	1
Beiler, Isaac K., Elverson, R. 2	6.25	12.19	76	23	1
Bressler, Dewey M., Hamburg, R. 3	5.5	10.26	78	20	2
Follveiler, George D., Stony Run	3	10.27	75	22	3
Hertzler, David M., Elverson, R. 2	10	11.27	71	27	2
Hertzler, Milford R., Elverson, R. 2	11	10.23	65	33	2
Kerr, George A., Virginville	5	10.08	70	29	1
King, Jonathan A., Joanna, Star Route	10.5	12.72	63	35	2
Mast, Elam E., Elverson, R. 2	9.25	12.35	72	28	
Ruth, John F., Stouchsburg	7.5	10.48	71	27	2
Schlegel, Paul H., Boyertown, R. 2	6	13.41	70	29	1
Shearer, J. Warren, Vinemont	3	10.33	85	15	
Stoltzfus, David M., Elverson, R. 2	9.25	15.28	72	27	1
Incomplete (1)					
Good, A. H.	1	10.1	71	28	1
BUCKS COUNTY					
Baker, Harry C., Langhorne, R. D.	15.5	11.26	62	35	3
Belke, Herman, Newtown, R. D.	6.5	12.32	61	38	1
Beattie, Samuel J., Hallowell	10	10.29	60	37	3
Beatty, Joshua W., Hatboro, R. D.	3	20.46	72	27	1
Bloomfield, H. Chester, Langhorne, R. 2	11	12.14	62	36	2
Brady, Edwin S., Jamison	12	11.64	73	26	1

Largest Yield on 75 Acres

by STARKEY FARMS CO., Inc., Morrisville, Pa.

Bucks County

SEED—Treated with Ceresan.

PLANTS—Georgia field grown, set at once.

SOIL—Sandy to silt loam.

ROTATION—Vegetables preceding tomatoes.

COVER CROP—Rye preceding tomatoes.

FERTILIZER—Cyanamid, 200 lbs. per acre, broadcast on cover crop one month before plowing, and 2-10-10, 1,000 lbs. per acre, broadcast. Muriate of potash, 150 lbs. per acre applied after planting. Plant starter, 8-24-8, used, 16 pounds per acre.

PLANTING—May 5-7, water applied, 97% stand, spaced 5 x 3 feet. Twenty acres dusted once.

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Fair, Harrison, Gardners	2	12.35	85	14	1
Garretson, Lloyd, Biglerville	4	15.82	78	21	1
Garretson, Robert, Floradale	2	10.15	74	25	1
Gochenour, Joe D., Biglerville	4.5	11.80	72	26	2
Golden, C. I., Gardners	3.5	10.37	68	31	1
Knouse, A. Dale, Biglerville	4	14.32	82	17	1
McDannel, Harry, Arendtsville	1.5	10.12	75	25	
Pitzer, Earl, Biglerville	6	13.46	76	23	1
Rinehart, Roy, Gardners	1	16.27	80	19	1
Schriver, Howard, Gardners	3	11.95	63	36	1
Showers, Ray, Biglerville	3.5	12.62	78	21	1
Slusser, Vernon, Gardners, R. D.	2	10.55	56	44	
Smith, William, Aspers	2	14.51	60	38	2
Taylor, Gerald, Biglerville	4.5	10.38	69	30	1
Tuckey, Jesse, Biglerville	3	12.90	66	33	1
Warren, Lewis, Aspers	2	15.32	68	28	4
Weaver, C. C., Aspers	2.5	11.58	80	20	
BERKS COUNTY					
Beiler, John Z., Morgantown, Box 43	5.75	11.5	61	38	1
Beiler, Isaac K., Elverson, R. 2	6.25	12.19	76	23	1
Bressler, Dewey M., Hamburg, R. 3	5.5	10.26	78	20	2
Follveiler, George D., Stony Run	3	10.27	75	22	3
Hertzler, David M., Elverson, R. 2	10	11.27	71	27	2
Hertzler, Milford R., Elverson, R. 2	11	10.23	65	33	2
Kerr, George A., Virginville	5	10.08	70	29	1
King, Jonathan A., Joanna, Star Route	10.5	12.72	63	35	2
Mast, Elam E., Elverson, R. 2	9.25	12.35	72	28	
Ruth, John F., Stouchsburg	7.5	10.48	71	27	2
Schlegel, Paul H., Boyertown, R. 2	6	13.41	70	29	1
Shearer, J. Warren, Vinemont	3	10.33	85	15	
Stoltzfus, David M., Elverson, R. 2	9.25	15.28	72	27	1
Incomplete (1)					
Good, A. H.	1	10.1	71	28	1
BUCKS COUNTY					
Baker, Harry C., Langhorne, R. D.	15.5	11.26	62	35	3
Belke, Herman, Newtown, R. D.	6.5	12.32	61	38	1
Beattie, Samuel J., Hallowell	10	10.29	60	37	3
Beatty, Joshua W., Hatboro, R. D.	3	20.46	72	27	1
Bloomfield, H. Chester, Langhorne, R. 2	11	12.14	62	36	2
Brady, Edwin S., Jamison	12	11.64	73	26	1

INTENTIONAL SECOND EXPOSURE

BUCKS COUNTY (Continued)

Brickajlik, John, Sellersville, R. 1	18	14.31	67	32	1
Brinker, William, Chalfont, R. D.	5	15.62	72	27	1
Brooks, George E., Yardley, R. 1	5	14.07	76	23	1
Brunstein, Max, 144 E. Ruscomb St., Phila.	3	19.36	66	32	2
Carrell, Frank B., Neshaminy	6	12.15	65	35	
Chapman, Harry, Bristol, R. 1	13	15.51	72	27	1
Clymer, Sr., Samuel H. M., Chalfont	6	10.00	68	31	1
Constanzer, James, Perkasie, R. 3	4	20.46	77	21	2
Cornell, Lehigh P., Feasterville	5.5	11.73	60	36	4
Cornell, Norman S., Warrington	4.5	11.49	66	32	2
Coughenour, Woodrow P., Mechanicsville	13	11.92	61	38	1
Dager, Raymond, Forest Grove	8	10.48	62	36	2
Dager, R. M., Hartsville	20	10.38	61	37	2
Dangelo, Peter, Feasterville	8	10.00	65	32	3
Dybiak, Stephen, Sellersville, Box 41	5	11.75	74	25	1
Edwards, Furman A., Ivyland, R. D.	7.5	12.45	68	30	2
Effinger, J. Christian, Morrisville, R. 1	13	14.06	65	34	1
Emert, Donald G., Quakertown, R. 2	3	14.21	66	30	4
Fell, Morris L., Doylestown, R. 2	7	10.24	66	32	2
Fink, Mathias, Newtown, R. D.	10	10.22	61	37	2
Finney, W. Raymond, Ivyland	13	10.01	60	37	3
Froehlick, D., Jamison	20	14.13	70	29	1
Gancarz, John, Morrisville	24	13.80	69	29	2
Garges, Howard, Chalfont, R. D.	5	21.04	71	27	2
Garges, Howard S., New Britain	3	14.48	66	32	2
Grabowski, Julius J., Sellersville, Box 65	9.5	13.72	75	25	
Grass, Leidy R., Perkasie, R. 3	3	16.03	76	23	1
Greenberg, Albert, Doylestown, R. 2	18.5	12.43	63	35	2
Hawkins, W. Leroy, Southampton	10.5	10.01	72	27	1
Heuscher, Herman G., Ivyland	13.5	16.05	76	23	1
Heuscher, Philip C., Ivyland	13.5	13.40	71	29	
Hibbs, Frank H., Bristol, R. 1	25	10.78	69	29	2
Hunsberger, Rachel D., Chalfont, R. D.	6	20.47	75	24	1
Jackson, Andrew, Yardley	5.5	16.48	75	25	
Jackson, William F., Yardley	6	10.00	65	33	2
Jeremicz, Joseph, Sellersville, R. 1	1	15.40	65	33	2
Kirk, Leslie F., Newtown	11	10.44	63	36	1
Klenk, Howard H., Southampton	9	12.77	71	28	1
Lapp, Grant, New Britain	4	14.89	69	28	3
Lee, Earl D., Newtown, R. 2	8	12.33	74	25	1
Livezey, Stanley R., Davisville	15.5	11.50	69	30	1
Long, C. M., Ivyland	11.5	10.04	63	35	2
Loux, H. Paul & C T. Loux, Quakertown, R. 4	12	14.89	64	35	1
Lukomski, Joseph, Sellersville, R. 1	6	14.47	69	29	2
Mastin, E. O., Quakertown, R. 3	51	10.47	62	35	3
Matthias, Jr., John, Perkasie, R. 2	7.5	10.24	64	34	2
Miscoski, Frank, Bristol, R. 1	12	11.01	66	33	1
Papciak, Thomas, Quakertown, R. 1	5	11.13	66	32	2
Parzich, Teofil, Perkasie	6	12.27	74	24	2
Petryk, Tony, Coopersburg, R. 1	4	16.67	81	18	1
Pojokiewicz, Joseph, Weisel, Box 40	8.5	11.33	67	32	1
Purvin, Albert W., Bristol, R. 1	10.5	11.04	66	33	1
Renninger, Charles P., Warrington	3.5	11.80	79	19	2
Rickert, Peter, Chalfont, R. 1	5	13.25	69	29	2
Rickey, A. D., Yardley	6	13.81	69	30	1
Rosenberger, Henry G., Chalfont, R. 1	8	16.06	71	27	2
Rum, Andro, Yardley	8.5	10.42	62	36	2
Schearer, Albert, Newtown	16.5	12.29	67	31	2

BUCKS COUNTY (Continued)

Schroy, Frederick, Quakertown, R. D.	3.25	10.96	67	32	1
Scudder, H. G., Yardley, R. 1	8	10.28	62	36	2
Seidel, William M., Perkasie, R. 3	7	18:51	67	30	3
Shade, Harold W., Silverdale, Box 84	9.5	13.80	66	32	2
Shelmire, H. D., New Britain	5.5	12.73	68	30	2
Shoemaker, E. H., Bristol, R. 1	11	11.45	62	36	2
Shutt, G. Leroy, Chalfont	8.5	12.54	61	37	2
Slack, G. Warren, Newtown	6	10.43	71	28	1
Slack, Josephine E., Forest Grove	5	16.45	74	25	1
Sobocinski, Ignacz, Sellersville, R. 1	7	11.60	65	33	2
Solly, Walter J., Ivyland	25	11.15	69	30	1
Starkey Farms Company, Morrisville	75	14.86	69	29	2
Strouse, Arthur Y., Perkasie, R. 1	5	15.23	76	23	1
Vargo, Jr., Stephen, Newtown, R. D.	14	12.77	73	26	1
Walker, A. E., Quakertown, R. 2	4.5	12.62	73	26	1
Weschywan, John, Yardley	5.5	12.10	77	23	
White, Daniel W. & George S. White, Langhorne, R. 2	13.5	11.98	66	32	2
Wietecha, Thomas J., Sellersville, R. 1	11	10.63	72	27	1
Wildonger, John H., Point Pleasant	9.5	10.00	65	32	3
Wilson, Robert C., Richboro	5	13.25	73	26	1
Woinovick, Jr., Anthony, Chalfont, R. D.	6	12.57	65	34	1
Yocum, John, Hilltown	8.5	13.52	70	28	2
Incomplete (1)					
Atha, Roy, Ivyland*	6	14.12	48	49	3
Barkasay, Nick, Yardley, R. 1	10	10.2	86	14	
Cregar, Lemuel C., Yardley, R. D.*	8	11.70	51	46	3
Elder, Joseph, Bristol, R. 1*	5	10.80	59	39	2
Guzikowski, Marjan, Yardley, R. 1*	24	14.91	58	41	1
Guzikowski, Mary, Woodside*	12	16.22	54	43	3
Guzikowski, Walter, Woodside*	7.5	12.35	56	42	2
Kirk, Amos K., Newtown*	7	12.76	50	46	4
Kish, Bertha, Yardley, R. D.*	4.5	11.07	51	46	3
Lempergel, Matyas, Yardley*	7	10.06	54	43	3
Liszewski, Henry, Bristol, R. 2*	5.5	10.01	45	51	4
Lojeski, Nikodem, Doylestown, R. 2*	17	18.80	59	39	2
Lojeski, Walter M., Ivyland*	30	11.01	58	39	3
Lovett, Henry L., Bristol, R. 1*	9.5	11.00	57	41	2
Lovett, William, Bristol, R. 1*	26	14.19	50	48	2
Luff, Alfred W., Richboro*	9	12.21	55	42	3
Luff, Clyde M., Newtown, R. D.*	9.5	11.64	56	40	4
Miguelez, Andres, So. Langhorne*	14	11.24	59	40	1
Ponczek, Joseph, Bristol, R. 1*	10.5	10.37	59	39	2
Potter, Lawrence, Bristol, R. 2*	15	10.21	54	43	3
Reed, Robert S., Bristol, R. 1	16.75	10.3	77	23	
Ritter, Clifford, Rushland*	5	13.49	53	45	2
Samuels, Herman, Warrington*	15	12.94	57	41	2
Savage, Ira J., Langhorne, R. 1*	5	10.31	69	39	2
Shelmire, J. Howard, New Britain*	11	10.08	59	39	2
Stackhouse, Arthur H., Yardley*	7.5	15.30	51	46	3
Tanner, William, Hatboro, R. D.*	3.5	18.27	59	37	4
Thompson, Charles R., Newtown*	6	10.32	57	40	3
Tomlinson, Horace W., Langhorne*	7	12.07	50	47	3
Tomlinson, Norman E., Newtown*	3	19.48	58	40	2
Tomlinson, Samuel F., Newtown*	11.25	10.93	54	43	3
Tomlinson, John L., Langhorne, R. 2	14	11.2	81	19	
Walton, Joseph B., Langhorne, R. 2*	7	11.28	53	44	3
Weiss, Andrew F., Langhorne, R. 1*	15	10.43	57	40	3
White, Charles S., Langhorne, R. 2*	4.75	12.62	58	38	4

BUCKS COUNTY (Continued)					
Whitecraft, Sr., Geo. W., Newtown*	8.5	10.83	52	44	4
Wilson, Harry C., Richboro*	16	11.84	59	39	2
CARBON COUNTY					
Steigerwalt, Ralph R., Lehighton, R. 2	4	10.10	74	25	1
CHESTER COUNTY					
Buffington, George C., Kennett Square, R. 3	3	11.49	68	29	3
Burger, Elmer, Honey Brook, R. 2	3	10.59	73	26	1
Clark, Harry H., Cochranville, R. D.	4	10.67	72	27	1
Gable, Wayne S., Honey Brook, R. 2	3.25	11.13	66	31	3
Good, Charley T. & Luther J. Given, Honey Brook, R. 1	3.5	11.52	81	18	1
Hertzler, Joseph Y., Elverson, R. 1	3	10.25	75	23	2
Hertzler, Wilmer K., Elverson, R. 1	5	10.77	63	35	2
Keller, Paul, Cochranville, R. D.	4	10.55	70	29	1
Kelly, J. Ralph, Kelton	7.5	12.12	71	27	2
Kennel, Aaron M., Honey Brook, R. D.	18.5	11.25	64	34	2
Petersheim, Barbara, Elverson, R. 2	5.5	13.27	67	31	2
Reel, Fred H., Honey Brook	4	10.05	71	28	1
Reynolds, Sr., A. Brinton, West Chester, R. 6	9	12.12	61	36	3
Sharpless, Evan B., Kennett Square	6	12.12	71	27	2
Sharpless, G. W., Kennett Square, R. D.	2.75	12.13	72	27	1
Slichter, W. A., Elverson, R. 1	5.75	15.82	62	35	3
Spotts, I. H., Elverson, R. 2	4	11.27	64	34	2
Stoltzfus, David, Elverson, R. 1	13.5	12.52	73	27	
Stoltzfus, Elam G., Honey Brook, R. 1	4.5	12.86	76	21	3
Styer, Ralph, Glenmore, R. D.	5.25	12.18	71	28	1
Yoder, John H., Elverson, R. 2	33	12.89	69	30	1
Young, Nelson, Downingtown, R. 1	7	11.63	71	25	4
Zimmerman, Phares S., Honey Brook	2	12.75	81	17	2
Zook, Jr., Morris, Honey Brook, R. 2	7	16.97	78	21	1
Zook, Omar, Honey Brook	14.25	15.24	73	26	1
Incomplete (1)					
Espenship, Henry S., Elverson, R. 2*	8.5	11.34	53	44	3
COLUMBIA COUNTY					
Bredbenner, S. L., Bloomsburg, R. 3	2.5	15.13	69	29	2
Bronson, Ralph, Bloomsburg, R. 3	3	12.11	77	21	2
Cherrington, Archie, Bloomsburg, R. 3	2	11.68	73	24	3
Edwards and W. C. Miller, Bloomsburg, R. 3	3.25	10.26	78	20	2
Howell, Raymond, Bloomsburg, R. 4	5	13.16	77	21	2
LeVan, Ray D., Catawissa, R. 3	2.25	11.68	80	19	1
Reeder, Jos. T., Catawissa, R. 2	2	11.1	88	11	1
Shuman, F. A., Bloomsburg, R. 3	2	10.09	61	36	3
CUMBERLAND COUNTY					
Baker, L. H., Shippensburg, R. 2	3	17.46	74	26	
Bard, R. E., Shippensburg, R. 1	2.5	10.86	81	19	
Berkheimer, Jacob, Mechanicsburg	3	14.52	75	24	1
Bream, Adam, Gardners	4.5	13.68	83	16	1
Fickle, C. W., Gardners	3	13.14	79	20	1
McVitty, J. E., Shippensburg, R. 2	8.5	11.44	74	25	1
Marks, G. C., Gardners	10	17.87	76	23	1
Miller, J. L., Shippensburg	3	12.57	71	28	1
Seibert, J. F., Shippensburg, R. 2	7	10.24	66	33	1
Whitmer, Ray, Shippensburg, R. 2	6.5	10.65	69	29	2
Incomplete (1)					
Keefer, Harry P., Shippensburg, R. 1*	3.9	10.58			

DELAWARE COUNTY					
Faust, W. H., 217 Pusey Ave., Collingdale,	3¼	12.82	62	34	4
ERIE COUNTY					
Incomplete (1)					
Alstadt, C. W., Erie, R. 5*	2.75	16.54			
Baker, Cecil, North East	2.5	12.07			
Bemiss, Arthur C., North East	1	14.4			
Burch, H. C., North East*	7	11.93			
Halloran, George, North East	3	10.93			
Mohring, Mrs. Katherine, North Girard	3	12.65			
Naylor, H. G., North East	4	10.27			
Nicholson, P. M., Erie, R. 2	3	13.9			
Olson, August, Harbor Creek	4	11.08			
Ripley, W. N., Harbor Creek	3	12.47			
Shattuck, J. H., Erie, R. D.*	2.5	15.74			
FRANKLIN COUNTY					
Barnes, J. W., Chambersburg, R. 1	2	12.97	68	31	1
Baer, Harry E., Fayetteville, R. 1	2	13.38	75	24	1
Benedict, John A., Waynesboro, R. 1	11	15.83	72	27	1
Bonebrake, H. E., Waynesboro, R. 2	6	10.16	68	30	2
Cook, A. C., Chambersburg, R. 1	9	11.7	73	26	1
Cramer, O. J., Chambersburg, R. 5	5	11.37	63	35	2
Eby, Ira L., Fayetteville, R. 1	5	11.49	74	25	1
Fogelsanger, F. W., Greencastle, R. 3	8.5	10.14	75	25	
Gates, Geo. W., Waynesboro, R. 1	4.5	10.99	86	14	
Good, Harry, Waynesboro	15	11.01	66	33	1
Hartman, Abner, Chambersburg, R. 5	4.5	10.06	69	30	1
Hess, Ezra, Shippensburg, R. 3	4	10.25	76	23	1
Hock, C. Walter, Shippensburg, R. 3	5	10.11	69	30	1
Lehman, Henry S., Chambersburg, R. 1	4	10.94	60	37	3
Musser, H. B., Chambersburg, R. 1	3.5	15.48	68	32	
Plasterer, Bigler E., Shippensburg, R. 3	4.5	12.97	77	23	
Rotz, Clarence D., Chambersburg, R. 2	3	11.9	73	27	
Snowberger, H. E., Waynesboro, R. 4	5.5	11.11	72	28	
Socks, H. M., Waynesboro, R. 2	3.5	10.35	73	26	1
Wertz Orchards, Waynesboro	13	11.40	72	28	
Wishard, Dr. H. W. Farm No. 2, Waynesboro	16	10.99	73	26	1
Witter, Bert E., Shippensburg, R. 3	4	16.53	72	27	1
Incomplete (1)					
Barr, I. C., Greencastle, R. D.*	6	14.37			
Brake and Doyle, Mercersburg	2.8	11.51			
Shindle, Clifford, Waynesboro, R. 4*	3	11.6			
Slaughenhaup, H. B., Chambersburg*	7	15.48	60	39	1
Stouffer, A. A., Waynesboro, R. 1	5	12.06	58	39	3
JUNIATA COUNTY					
Bashore, R. W., Thompsontown	1	21.38	74	23	3
Degen, C. I., Mifflintown	1	14.14	68	30	2
Frymoyer, N. B., Thompsontown	1	14.59	76	22	2
Graybill, Everett, McAlisterville	2	10.41	63	34	3
Swartz, Geo. W., McAlisterville	1	12.49	81	17	2
Seiber, J. W., McAlisterville	2	20.10	77	21	2
Watts, K. E., McAlisterville	1	13.00	65	32	3
Watts, N. W., McAlisterville	1	14.26	61	35	4
Watts, N. E., McAlisterville	1.75	16.12	72	26	2
Incomplete (1)					
Dressler, C. A., McAlisterville	2	10.34	72	26	1

JUNIATA COUNTY (Continued)					
Haubert, Harry, Thompsontown	1	10.07	71	26	4
Heckman, John F., McAlisterville	2	12.39	73	25	2
Jones, M. E., Mifflintown	1	13.05	60	35	5
Van Horn, Sharon, Thompsontown	1	14.17	75	23	2
Van Horn, C. N., McAlisterville	1.5	13.08	67	30	3
LACKAWANNA COUNTY					
Incomplete (1)					
Coon, F. H., Clarks Summit*	3.4	16.6			
Hopkins, H. W., Clarks Summit*	5.5	12.61			
Ladd, M. S., Waverly*	1.6	15.21			
LANCASTER COUNTY					
Adam, Alfons, Strasburg, R. 1	3.4	12.84	69	30	1
Bixler, Joe & Snyder, Marietta	4	10.86	82	18	
Boley, A. G., Narvon, R. 2	8	10.61	62	37	1
Boley, H. F., East Earl, R. 1	4	10.48	62	37	1
Bolton, L. I., Holtwood, R. 1	5	10.10	73	26	1
Bomberger, Homer D., Manheim, R. 1	3	12.80	85	15	
Breneman, J. W., Willow Street, R. 1	4.5	11.47	71	28	1
Brubaker, Henry E., Mt. Joy, R. 1	2	13.59	70	29	1
Brubaker, Isaac M., Lititz, R. 2	4.5	11.30	90	10	
Brubaker, Roy G., Manheim, R. 2	3	12.57	84	16	
Burkey, Wilmer S., East Earl, R. 1	5	14.69	63	35	2
Burkhart, Thurman K., Lancaster, R. 5	1.5	10.84	71	28	1
Burkholder, T. K., Willow Street, R. 1	5	10.2	61	37	2
Burkins, J. L., Drumore, R. 1	3.5	12.56	67	32	1
Bushong, H. Ray, Lititz, R. 1	2.25	11.42	81	19	
Denlinger, C. H., Columbia, R. 2	4	12.87	65	32	3
Denlinger, Earl S., Paradise, R. 1	4.5	13.42	78	21	1
Dickinson, Albert S., Honey Brook	1.5	11.42	63	35	2
Ditzler, Melvin B., Lititz, R. 1	3	10.38	88	12	
Dohner, Lester, Elizabethtown, R. 1	2	13.62	67	32	1
Douple, Jacob L., Lititz, R. 3	3	11.35	65	31	4
Eby, Menno, Gap, R. 1	4.5	11.96	69	30	1
Eichelberger, Jacob, Manheim, R. 1	3	12.78	81	19	
Erb, Roy B., Lancaster, R. 3	3	11.84	63	35	2
Esbenshade, Ross, New Holland	6	12.59	72	27	1
Eshleman, J. Robert, Manheim, R. 1.	2	10.72	83	17	0
Eshleman, Martin H., Drumore, R. 1	3	10.24	66	31	3
Fisher, A. H., Ronks, R. 1	2.5	11.74	69	29	2
Frankhouser, J. R., Goodville	4.25	11.96	71	28	1
Garber, Henry, Mt. Joy, R. 2	3	11.94	69	30	1
Getz, Rohrer, Mt. Joy, R. 1	2.2	11.08	71	29	
Glick, S. Roy, Narvon, R. 1	3	12.37	77	22	1
Ginder, Joseph H., Manheim, R. 3	3	13.92	72	28	
Good, Elmer V., Lititz, R. 1	2	11.73	83	17	
Groff, Landis S., Strasburg, R. 1	3	12.66	76	23	1
Harnish, A. Huber, Conestoga, R. 2	4	12.10	67	32	1
Harnish, Clarence H., Lancaster, R. 4	5	12.94	67	31	2
Harnish, J. Lloyd, Lancaster, R. 6	4	12.74	64	34	2
Heagy, A. B., Manheim, R. 1	12	12.96	72	25	3
Neisey, Elam, Columbia, R. 2	2	12.57	75	23	2
Hernley, Paul, Elizabethtown, R. 1	2	10.5	72	28	0
Hershey, D. P., Lititz, R. 1	6	10.91	82	18	0
Hershey, Graybill, Manheim, R. 1	9	10.57	84	16	0
Hershey, I. Leaman, Gap, R. 1	3	19.56	68	31	1
Hershey, Milton L., Manheim, R. 3	8.5	10.48	68	31	1
Hess, Charles H., Pequea, R. 1	3.25	11.23	66	33	1

LANCASTER COUNTY (Continued)					
Hess, H. M., Mt. Joy, R. 1	5	10.54	70	29	1
Hess, Paul M., Elizabethtown, R. 3	2	11.48	76	24	0
Hoffman, M. R., Maytown	6	10.73	69	29	2
Hollinger, Noah, Goodville	3	13.47	72	27	1
Horst, Harry S., East Earl, R. 1	6	11.13	72	27	1
Hostetter, Chris M., Lancaster, R. 2	4.5	11.53	69	30	1
Houser, Elizabeth H., Lancaster, R. 4	3	12.66	69	29	2
Houser, H. F., Lancaster, R. 4	2.37	12.48	63	35	2
Huffnagle, H. W., Quarryville	11	12.99	68	30	2
Kauffman, Sr., John A., Columbia, R. 1	2	10.42	81	19	0
Keller, A. Rohrer, Lititz, R. 2	8	11.53	69	30	1
Kurtz, Jacob M., Elverson, R. 2	4	10.36	72	26	2
Landis, Harry L., Bird in Hand, R. 1	4.5	13.81	67	32	1
Leaman, Clayton D., Narvon, R. 2	6	10.85	69	30	1
Lefever, George L., Strasburg, R. 1	3	10.40	61	37	2
Lefever, Samuel R., Lancaster, R. 4	8	12.87	62	36	2
Leinbach, Clement M., Denver, R. 1	3	10.25	65	34	1
Martin, Abram H., Lancaster, R. 3	3	10.66	70	29	1
Martin, Carpenter W., Bird in Hand, R.1	3	10.63	69	29	2
Martin, Jacob Z., Elizabethtown, R. 1	2	15.31	72	27	1
Martin, Lester C., East Earl, R. 1	6.75	12.18	71	27	2
Martin, William Z., New Holland, R. 1	7.5	10.06	70	28	2
Mentzer, Ellis K., New Holland, R. 2	3	14.88	63	35	2
Miller, Graybill, Manheim, R. 1	7.75	12.91	81	18	1
Mentzer, H. K., Kinzer, R. 1	3	10.29	74	25	1
Moats, Wilbur, Sheridan, R. 1	3	10.32	86	14	0
Moore, Howard E., Lancaster, R. 4	7	10.07	62	35	3
Mowery, Landis, Willow Street, R. 1	4	10.47	75	24	1
Mummua, Owen E., Mt. Joy, R. 2	3	11.36	73	26	1
Neff, Harry K., Lancaster, R. 4	9	12.17	61	37	2
Nolt, Harvey S., New Holland, R. 2	4.25	11.71	77	22	1
Reeser, Roy K., Gap, R. 1	3	10.39	74	25	1
Reimer, Abram J., Manheim, R. 3	3	10.68	78	22	0
Reinhart, R. B., Refton	4	10.98	71	28	1
Rohrer, Jacob H., Lancaster, R. 4	3	13.91	70	27	3
Rosenberry, W. B., Lancaster, R. 4	3	13.43	62	37	1
Shaub, Lancaster, R. 3	5	10.19	60	38	2
Sauder, Alvin, East Earl, R. 1	3	11.54	69	30	1
Sensenich, Abram M., Lititz, R. 3	4	10.13	80	20	0
Seigrist, J. Henry, Manheim, R. 1	3	11.56	89	11	0
Shelly, Ephriam S., Manheim, R. 1	3	17.33	90	10	0
Shenk, H. Martin, Manheim, R. 1	5	10.79	72	27	1
Shenk, John S., Lancaster, R. 6	17.3	10.9	64	35	1
Snavely, Mrs. Susan W., Manheim, R. 1	2	10.67	88	12	0
Stoltzfus, Ben, Gap, R. 1	4.5	16.00	70	29	1
Stoltzfus, Isaiah K., Elverson, R. 2	11	12.49	70	27	3
Stoltzfus, John F., Narvon, R. 2	3	10.05	70	28	2
Stoltzfus, Levi E., Narvon, R. 1	4	12.83	66	32	2
Sumpman, Harvey, Mt. Joy, R. 2	5	10.1	73	26	1
Sweigart, Sam S., Elverson, R. 2	4.5	15.03	67	32	1
Sweitzer, Clayton A., Marietta, R. 1	3.25	10.12	70	28	2
VanCleve, Paul E., Lancaster, R. 4	3.5	12.88	65	34	1
Weaver, Aaron H., Lancaster, R. 3	5	10.52	67	31	2
Witmer, Elam W., Ephrata, R. 2	4	10.12	62	37	1
Witmer, Elmer R., East Earl, R. 1	5	12.16	72	27	1
Witwer, Walter S., Gordonville, R. 1	2	14.73	70	27	1
Wolgemuth, Irvin M., Mt. Joy, R. 1	8.5	13.57	74	25	1
Wolgemuth, Joseph M., Mt. Joy, R. 1	4	12.12	75	24	1
Wolgemuth, Paul L., Manheim, R. 2	3	10.20	77	23	0

LANCASTER COUNTY (Continued)

Wolgemuth, Paul M., Elizabethtown, R. 3	3	10.73	67	30	3
Zander, R. C., Gap, R. 2	3.5	12.30	69	28	3
Incomplete (1)					
Barley, Abram M., Washington Boro, R. 2	2	10.42	62	37	1
Bleacher, Aaron, Conestoga, R. 2	3	13.41	76	23	1
Bleacher, Harold, Conestoga, R. 2	3.5	10.11	71	26	3
Brubaker, J. N., Lancaster, R. 2	2	11.5	78	21	1
Brubaker, Jacob G., Manheim, R. 1	6	11.93	84	16	0
Buchen, Ben, Manheim, R. 1	2.5	10.98	80	20	0
Buckwalter, J. Quentin, Lititz, R. 3	5	11.19	71	29	0
Eby, George E., Elizabethtown, R. 3	1	13.44	78	21	1
Fahnestock, Clarence D., Manheim, R. 3	2	10.00	87	13	0
Fahnestock, Jacob N., Manheim, R. 3	5.5	11.08	85	15	0
Gehman, Allan, Ronks, R. 1*	4	14.14	59	38	3
Gibble, Graybill G., Manheim, R. 1	3	12.77	87	13	0
Gingrich, Wm. M., Elizabethtown, R. 3	1	11.75	83	17	0
Greider, Clarence, Mt. Joy, R. 1	3	10.75	69	30	1
Groff, Elias H., Lancaster, R. 6*	6	14.22	58	40	2
Haller, Erhard, Sheridan, R. 1	3	10.48	79	21	0
Heckman, G. A., Mt. Joy	3	11.38	76	23	1
Heisey, Clayton, Millersville	4	10.90	68	30	2
Herman, Anton, Myerstown, R. 1	3	12.66	79	21	0
Herr, David S., Lancaster, R. 6*	3	13.98	61	37	2
Herr, Frank H., Quarryville, R. 1*	3	11.17	57	41	2
Herr, H. Elvin, Willow Street, R. 1	5.5	10.01	52	46	2
Herr, I. H., Lancaster, R. 6	3	10.12	77	23	0
Hershey, Walter H., Lancaster, R. 6	3	11.83	68	31	1
Hoffer, Edna, Miss, Manheim, R. 1	2	15.44	84	16	0
Hoffman, B. G., Elizabethtown, R. 1	3	11.40	55	41	4
Hollinger, Jacob S., 403 W. High St., Manheim	2	10.31	85	15	0
Hollinger, John B., Lititz, R. 1	2	13.16	76	24	0
Horst, Ivan S., Millway	2	10.97	86	14	0
Kaylor, Roy B., Elizabethtown	2	11.25			
Keener, Leon E., Sheridan, R. 1	2	11.36	78	22	0
Kreider, Clayton, Quarryville, R. 1*	4	14.56			
Longnecker, Ira S., Lititz, R. 3	4.5	10.06			
Mellinger, Henry M., Mt. Joy, R. 1	2	10.25	79	20	1
Mylin, Clyde K., Willow Street, R. 1*	6	10.56	58	40	2
Neff, Roy K., Millersville, R. 1	3	11.89	58	40	2
Nolt, Paul S., Lititz, R. 3	2.5	10.31	89	11	0
Ortman, Edwin, Washington Boro, R. 1	4	10.71	73	26	1
Royer, E. R., Lancaster, R. 3*	8	11.53			
Schock, John M., Washington Boro, R. 1*	5.5	10.01	70	29	1
Schock, Jacob, Washington Boro, R. 1*	4.5	12.31	65	34	1
Schock, Isaiah M., Washington Boro, R. 1	3	10.08	69	28	3
Shearer, Elmer, Mt. Joy, R. 1	1.5	18.09	75	24	1
Shissler, Russell, Elizabethtown, R. 2	1	10.48	78	21	1
Stoner, Henry, Lititz, R. 2	3.33	10.14	82	18	0
Trupe, W. S., Columbia, R. 2	2	10.89	75	23	2
Warner, Bertha H., Paradise, R. 1*	5.25	10.56	54	43	3
Witmer, Amos M., Ronks, R. 1	3	11.01	75	24	1
Witmer, Mrs. Florence, Conestoga, R. 2	1.5	11.06	76	21	3
Zimmerman, M. M., Stevans, R. 1	4.5	11.73	71	29	0

LEBANON COUNTY

Arnold, Elijah, Lebanon, R. 5	4	10.74	63	36	1
Arnold, Moses S., Lebanon, R. 1	2.75	10.96	72	27	1

LEBANON COUNTY (Continued)

Arnold, Raphael M. & Emma D. Phillips, Schaefferstown	3.5	10.15	80	20	0
Balsbaugh, Amos J., Lebanon, R. 1	3.5	12.58	77	23	0
Bowman, J. Oscar, Myerstown, R. 2	3.25	10.22	74	26	0
Bucher, Miles K., Lebanon, R. 1	5	10.68	71	29	0
Dubble, Nathan G., Myerstown, R. 2	3	10.62	81	18	0
Eberly, Ralph L., Sheridan, R. 1	3	12.67	77	22	1
Eshleman, Lloyd, Myerstown, R. 2	4	12.47	63	35	2
Fetter, Allen T., Richland, R. D.	3	11.68	73	27	1
Gibble, Isaac G., Rexmont	4	13.49	80	19	1
Gingrich, Herman A., Lebanon, R. 5	4.3	10.46	74	25	1
Grumbine, Lee J., Myerstown, R. 2	13	11.62	64	35	1
Hackman, C. P., Myerstown, R. 2	3.1	12.24	62	36	2
Heisey, Nathan P., Myerstown, R. 2	3.5	10.0	73	26	1
Heisey, Solomon, Lebanon, R. 5	5	10.88	62	36	2
Hershey, Mark C., Lebanon, R. 5	17	10.90	78	20	2
Hertzler, D. R., Richland, R. 1	3.4	10.25	75	24	1
Hitz, Landis G., Lebanon, R. 1	4.5	12.81	67	32	1
Hoffmaster, Lester E., Lebanon, R. 1	6	10.91	67	32	1
Horst, Irwin, Schaefferstown	3.75	14.31	74	25	1
Horst, Ammon G. & Lester P. Spitler, Myerstown, R. 2	3.8	16.6	69	31	0
Houser, Miles H., Lebanon, R. 5	4.4	10.09	74	25	1
Kegerreis, Harvey, Myerstown, R. 2	4	10.60	78	22	0
Klick, George F. & Moses Kreider, Lebanon, R. 4	3.5	10.18	67	32	1
Krall, Harvey W., Lebanon, R. 1	4	10.14	66	33	1
Leffler, John King, Myerstown, R. 2	3	13.64	64	34	2
Meyer, Samuel W., Lebanon, R. 1	4.3	11.05	67	33	0
Miller, Henry C., Myerstown, R. 2	5	11.32	74	26	0
Mock, Isaac B., Myerstown, R. 2	4	15.21	77	22	1
Moyer, Wm. H., Schaefferstown	5	16.59	80	19	1
Netzley, Charles, Myerstown, R. 2	6	11.03	71	28	1
Nolt, P. S., Lebanon, R. 1	3	11.48	77	23	0
Phillipy, Rufus, Sheridan	3	10.40	65	32	3
Reesor, Harry A., Lebanon, R. 1	2.75	10.12	70	29	1
Royer, J. Herman, Myerstown	5	11.01	86	14	0
Shaak, Henry P., Sheridan, R. 1	1.25	16.37	79	21	0
Smith, Chas. C., 1224 W. Oak St., Lebanon	7	10.57	68	31	1
Smith, Ray W., Lebanon, R. 5	6	15.08	65	34	1
Snyder, Robert J., Lebanon, R. 1	3.7	15.8	81	19	0
Weaver, Ivan G., Lebanon, R. 5	3	12.65	82	18	0
Webbert, Harry, Myerstown, R. 2	1	13.58	76	24	0
White, C. H., Lebanon, R. 1	5	12.85	72	28	0
Ziegler, Jesse H., Myerstown, R. 2	3	10.20	84	16	0
Incomplete (1)					
Herr, Eben F., Myerstown, R. 2*	2	10.97	54	45	1
Smith, Oscar H., Myerstown, R. 2*	5	11.67	54	44	2

LEHIGH COUNTY

Bender, L. J., Allentown, R. 4	3	25.32	82	17	1
Gehman Dairy Farm, Macungie	3	10.91	71	24	5
Keystone Farms, Inc., Macungie	6	14.28	78	21	1
Lehigh Portland Cement Co., Allentown (M. P. Tait, Farm Supt.)	3.7	13.58	78	16	6

LUZERNE COUNTY

Tressler, Frank, Conyngham	2	16.64	70	29	1
Zehner, F. D., Bloomsburg, R. 3	3	12.35	68	31	1

LUZERNE COUNTY (Continued)					
Incomplete (1)					
Earle, Thomas, Wyoming, R. 3*	11	10.9			
Davies, James J., Kingston*	4	10.05			
Hilyard, Foster*	2	14			
Kisenwether, Wallace A., Sugarloaf	2	13.10	76	24	0
Oakes, George L., Drums	2	11.1	58	39	3
Sitler, David Y., Nescopeck, R. 1	3.5	10.82	83	16	1
Tressler, Mrs. Wm. B., Sybertville	3	11.32	72	27	1
Turnbaugh, Chas., Sugarloaf, R. D.*	1.5	20.19			
Van Tile, Chas., Pittston, R. 1*	4.5	10.26			
Zehner, Warren F., Sugarloaf	3	10.11			
LYCOMING COUNTY					
Hagenbach, Paul M., Montgomery, R. 2	5	12.72	77	22	1
Jarrett, Ross, & Sons, Montgomery, R. 2	5	13.85	70	29	1
Keller, Commodore, Montoursville, R. 2	1.5	10.95	92	8	0
Shipman, B. L., Muncy, R. 4	4	13.07	74	26	0
Shipman, Clinton, Muncy, R. 1	5.5	12.25	83	17	0
Stryker, E. E., Montgomery, R. 2	8	11.85	78	22	0
Incomplete (1)					
Berger, Charles H., Montgomery, R. 2	5	10.04	60	39	1
Kahler, B. F. & Son, Hughesville, R. 1	5	11.16	74	26	0
MIFFLIN COUNTY					
Hartzler, E. J., Belleville	2	12.9	72		
Kanagy, Aaron D., Belleville	2	11.0	73		
Incomplete (1)					
Detwiler, Sam Y., Allensville	1.5	14.07	60		
Hartzler, J. Elrose, Allensville	1	13.19	75		
Kanagy, Amandus B., Belleville*	1.25	16.0			
Kanagy, Joe L., Belleville	1.25	11.09	67		
King, Archie F., Belleville	1.75	11.10	75		
Peachey, Christian P., Belleville	1.5	12.57	76		
Peachey, Jr., David E., Belleville	4	10.20	73		
Peachey, Harvey L., Belleville	2	13.96	78		
Peachey, John E., Reedsville	1	11.73	59		
Peachey, John Y., Belleville	2	13.43	60		
Peachey, Joseph I., Belleville	1	14.26	76		
Peachey, Louis S., Reedsville	1.5	10.96	68		
Peachey, Raymond R., Belleville	1	11.09	74		
Peachey, Rufus A., Belleville	1	13.2	77		
Yoder, Abe S., Belleville	1.75	12.61	68		
Yoder, Sr., Rudy J., Belleville	2.25	13.24	72		
Zook, Israel B., Jr., Belleville	1	13.71	61		
MONTGOMERY COUNTY					
Anders, Walter A., Norristown, R. 2	3.5	12.20	74	25	1
Brasier, Leon E., Huntington Valley	3.25	10.52	63	35	2
Heebner, Curtis A., Norristown, R. 2	11	11.5	62	34	4
Jensen, Harold C., Hatboro, R. D.	3.5	13.52	61	37	2
Kreps, J. A., Pottstown, R. 1	7	14.43	77	21	2
Long, Charles I., Worcester	19.5	13.43	60	38	2
Mason, T. K., 229 So. York Road, Hatboro	7.5	11.87	63	36	1
Park, Eugene B., Hatboro	27.5	11.65	64	33	3
Park, John B. & Joseph C. Park, Horsham	14.5	12.70	61	37	2
Reinford, William F., Rahns	5.5	12.65	61	37	2
Rosenberger, Russel, Norristown, R. 2	2.8	10.65	70	29	1
Troxel, Davis G., Norristown, R. 3	24	11.39	67	31	2
Veno, Ervin, Norristown, R. 4	14.75	10.03	64	33	3

MONTGOMERY COUNTY (Continued)					
Weisel, Albert C., Prospectville	10	10.42	65	32	3
Wentz, George B., Jarrettown	65	12.69	60	37	3
Incomplete (1)					
Detweiler, C. L. & Clarence M. Detweiler, Hatboro, R. D.*	10	13.14	54	43	3
Prock, Harry A., Whitemarsh*	10	10.25	59	36	5
Tilley, John L., Eureka*	7.5	10.21	55	41	4
MONTOUR COUNTY					
Carr, Charles C., Danville, R. 3	2.25	11.45	74	26	0
Cotner, Elwood M., Danville, R. 2	3	14.73	76	23	1
Hoffman, Lewis A., Danville, R. 2	7	10.26	80	20	0
Lobach, Edwin L., Danville, R. 1	3.5	10.96	83	17	0
Martz, F. E. & C. J., Washingtonville	4.5	13.78	70	29	1
Pardoe, Irvin G., Danville, R. 2	2	14.71	74	25	1
Ranch, Howard, Danville, R. 2	2.75	15.07	83	16	1
Rishel, D. R., Danville, R. 2	8	12.46	74	26	0
Robb, W. T., Danville, R. 3	4	10.93	73	26	1
Shultz, Homer H., Danville, R. 2	6	12.11	72	27	1
Sidler, W. S., Danville, R. 2	6	12.25	74	25	1
Smith, Frank A., Danville, R. 2	8	12.59	80	19	1
Incomplete (1)					
Flora, Harry, Danville, R. 3	5	11.50	77	22	1
Reinaker, Harry E., Danville, R. 5	4	11.68	64	35	1
NORTHAMPTON COUNTY					
Duh, Stephen, Hellertown, R. 1	14.5	10.37	87	13	0
NORTHUMBERLAND COUNTY					
Lahr, J. A., Sunbury, R. 1	2.25	20.78	75	25	0
Maier, R. Fred, Watsontown, R. 1	2.5	14.25	80	21	0
PERRY COUNTY					
Incomplete (1)					
Bernheisel, H. N., Green Park*	1.5	11.7			
PHILADELPHIA COUNTY					
Humphreys, Charles, Torresdale	21	15.26	64	34	2
Klimkowski, Joseph, Holmesburg	13	16.09	68	31	1
Morrow, W. J. & A. T. Morrow, Torresdale	26	14.78	65	32	3
SCHUYLKILL COUNTY					
Heisler, Arthur S., Tamaqua, R. 1	4.5	23.54	69	30	1
Lutz, H., New Ringgold, R. 2	3	11.97	74	25	1
Schwartz, Robert A., Hegins, R. 1	3	10.11	74	26	0
Steigerwalt, Chas. A., Andreas, R. 1	4.5	14.92	70	28	2
Wildermuth, Harry J., Pine Grove, R. 2	4.5	10.15	74	26	0
Incomplete (1)					
Gearhart, Roy, Ringtown	5.5	11.24	66	32	2
Moyer, Charles H., Ringtown	3.5	10.61	85	14	1
SNYDER COUNTY					
Brubacher, Henry M., Selinsgrove, R. 2	3	10.1	73	26	1
Gaugler, George H., Port Trevorton, R. 2	10	10.40	72	28	0
Klingler, C. A., Selinsgrove, G. D.	4	10.2	80	20	0
Martin, Enos S., Selinsgrove, R. 2	3	10.23	79	20	1
Smith, Herman F., Middleburg, R. 2	3	10.52	72	28	0
Stahl, B. W., Selinsgrove, R. 2	5.5	13.5	81	18	1
Stauffer, P. O., Selinsgrove, Star Route	3	12.3	78	21	1

SNYDER COUNTY (Continued)					
Wentzel, Foster E., Selinsgrove, R. 2 Incomplete (1)	3	11.92	70	29	1
Sholley, Ira D., Selinsgrove, R. 2	2.75	10.72	74	24	2
Troup, Edward A., Port Trevorton, R. 2	2	10.39	78	21	1
UNION COUNTY					
Barber, D. Frank, New Columbia	3.5	10.52	76	23	1
Beachel, Clarence M., Winfield	6	10.62	67	33	0
Dale, Henry L., Mifflinburg	6	10.11	74	25	1
Dieffenbach, Geo. H., Lewisburg, R. 2	12	10.17	70	30	0
Miller, C. L., Lewisburg, R. 3	8.5	10.82	81	19	0
Minium, M. E., Lewisburg, R. 3	3	10.58	77	22	1
WYOMING COUNTY Incomplete (1)					
Burgess, Burl H.*	6	11.85			
YORK COUNTY					
Gobrecht, Wm., Hanover Incomplete (1)	9.78	13.87	71	28	1
Arbogast, A. R., Dillsburg	2	14.50	66	33	1
Binner, H. W., Dillsburg	5	18.30	78	21	1
Brough, Donald, York Springs	2.5	14.92	79	20	1
Brough, John, York Springs, R. D.	3	14.5	75	25	
Davis, Calvin, York Springs	5	12.02	75	24	1
Davis, William, York Springs	3	10.53	70	28	2
Dick, Scott, Dillsburg	5	10.60	74	24	2
Diehl, Clement, New Freedom	1.5	17.33			
Fleming, Charles, Dillsburg, R. 1	6	11.40	77	22	1
Frantz, Charles, Seven Valley, R. 2	2	15.0			
Gladfelter, Clyde, Shrewsbury	1.5	17.66			
Grove, Horace M., Highrock*	2.47	10.7			
Harbold, Erwin, York Springs	5	14.90	80	19	1
Hartman, Paul, York, R. 2	1	12.0			
Hikes, E. H., York Springs, R. D.	2	10.41	77	23	
King, Charles, York Springs	3	18.30	79	20	1
Lehman, Stewart, Dillsburg	8	11.58	68	31	1
Lerew, Parker, York Springs	5	17.40	84	15	1
Livingston, George, Dillsburg	2	14.05	72	27	1
Lory, L. E., York Springs	2	15.44	72	27	1
Marstellar, Shrewsbury	2	15.0			
Miller, Harry, Laurel, R. 1	1.5	11.33			
Miller, Wilbur, New Freedom	1.5	13.33			
Sheaffer, M. R., Dillsburg	5	19.04	74	25	1
Smith, J. Wm., Felton, R. 1	1	14.0			
Sowers, H. W., York Springs	3	15.59	80	19	1
Spangler, Harry, York Springs	2	12.90	77	22	1
Starry, H. H., York Springs	3	14.26	75	24	1
Starry, N. D., York Springs	6	17.21	68	30	2
Stine, John, Seven Valley, R. 2	2	10.50			
Sterner, William, Hanover, R. 1	6.1	10.28	72	26	2
Stitely, Ralph, Laurel, R. 1	1	13.0			
Sweitzer, Ivan, New Freedom	1.5	21.66			
Whitcraft, Clyde, New Freedom	1.5	15.67			
Whitcraft, Ralph, Glen Rock	1	20.0			
Wonders, Glenn, York Springs, R. D.	2.5	10.09	71	29	

(1) Certificates are awarded to growers producing 10 or more tons per acre on one or more acres with not less than 60% U. S. No. 1 grade tomatoes, when cultural records are presented by the grower (or canner) and sufficient evidence to substantiate the record is available.

* Growers whose names are followed by an asterisk have records of their production practices included in the summary, but evidence of having harvested 60% or more U. S. No. 1 was not available at the time of publication.

Profitable Ten-Ton Tomato Production Practices

JESSE M. HUFFINGTON, *Specialist in Vegetable Gardening Extension*
and
MONROE J. ARMES, *Specialist in Farm Management Extension*
The Pennsylvania State College, State College, Pa.

Fifteen years ago the acreage of tomatoes grown for canning in Pennsylvania was 3,740, and, in 1941, it was 22,000, in addition to the 2,400 acres grown for local markets.

High yields with high quality and low cost per ton, delivered to the market or cannery, require careful planning and the adoption of efficient practices. With this in mind, the records of production practices followed in 1941 are summarized. These include 3,989 acres and 591 growers in 30 counties. Record blanks for keeping an account of the 1942 crop may be obtained from the County Agent.

LONG ROTATIONS PRACTICED AND COVER CROPS USED

Tomatoes followed another cultivated crop, mostly corn, in 62 per cent of the ten-ton fields but a clover-grass sod was included in most rotations—the exact percentage figure cannot be given. Only five per cent of the ten-ton growers planted tomatoes after tomatoes, and 21 per cent planted tomatoes after sod.

Winter cover crops were included in the tomato rotation by 31 per cent of the ten-ton growers. Domestic ryegrass, seeded at the last cultivation at the rate of 25 pounds per acre, was the most popular cover crop.

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TOMATOES GROWN IN A GOOD ROTATION

The above tomatoes were grown in a rotation including (1) clover-grass sod with sufficient lime applied to produce a good crop of clover, (2) corn, a cultivated crop, (3) tomatoes, and (4) wheat, seeded in the fall after plowing down the tomato vines.

SNYDER COUNTY (Continued)					
Wentzel, Foster E., Selinsgrove, R. 2	3	11.92	70	29	1
Incomplete (1)					
Sholley, Ira D., Selinsgrove, R. 2	2.75	10.72	74	24	2
Troup, Edward A., Port Trevorton, R. 2	2	10.39	78	21	1
UNION COUNTY					
Barber, D. Frank, New Columbia	3.5	10.52	76	23	1
Beachel, Clarence M., Winfield	6	10.62	67	33	0
Dale, Henry L., Mifflinburg	6	10.11	74	25	1
Dieffenbach, Geo. H., Lewisburg, R. 2	12	10.17	70	30	0
Miller, C. L., Lewisburg, R. 3	8.5	10.82	81	19	0
Minium, M. E., Lewisburg, R. 3	3	10.58	77	22	1
WYOMING COUNTY					
Incomplete (1)					
Burgess, Burl H.*	6	11.85			
YORK COUNTY					
Gobrecht, Wm., Hanover	9.78	13.87	71	28	1
Incomplete (1)					
Arbogast, A. R., Dillsburg	2	14.50	66	33	1
Binner, H. W., Dillsburg	5	18.30	78	21	1
Brough, Donald, York Springs	2.5	14.92	79	20	1
Brough, John, York Springs, R. D.	3	14.5	75	25	
Davis, Calvin, York Springs	5	12.02	75	24	1
Davis, William, York Springs	3	10.53	70	28	2
Dick, Scott, Dillsburg	5	10.60	74	24	2
Diehl, Clement, New Freedom	1.5	17.33			
Fleming, Charles, Dillsburg, R. 1	6	11.40	77	22	1
Frantz, Charles, Seven Valley, R. 2	2	15.0			
Gladfelter, Clyde, Shrewsbury	1.5	17.66			
Grove, Horace M., Highrock*	2.47	10.7			
Harbold, Erwin, York Springs	5	14.90	80	19	1
Hartman, Paul, York, R. 2	1	12.0			
Hikes, E. H., York Springs, R. D.	2	10.41	77	23	
King, Charles, York Springs	3	18.30	79	20	1
Lehman, Stewart, Dillsburg	8	11.58	68	31	1
Lerew, Parker, York Springs	5	17.40	84	15	1
Livingston, George, Dillsburg	2	14.05	72	27	1
Lory, L. E., York Springs	2	15.44	72	27	1
Marstellar, Shrewsbury	2	15.0			
Miller, Harry, Laurel, R. 1	1.5	11.33			
Miller, Wilbur, New Freedom	1.5	13.33			
Sheaffer, M. R., Dillsburg	5	19.04	74	25	1
Smith, J. Wm., Felton, R. 1	1	14.0			
Sowers, H. W., York Springs	3	15.59	80	19	1
Spangler, Harry, York Springs	2	12.90	77	22	1
Starry, H. H., York Springs	3	14.26	75	24	1
Starry, N. D., York Springs	6	17.21	68	30	2
Stine, John, Seven Valley, R. 2	2	10.50			
Sterner, William, Hanover, R. 1	6.1	10.28	72	26	2
Stitely, Ralph, Laurel, R. 1	1	13.0			
Sweitzer, Ivan, New Freedom	1.5	21.66			
Whitcraft, Clyde, New Freedom	1.5	15.67			
Whitcraft, Ralph, Glen Rock	1	20.0			
Wonders, Glenn, York Springs, R. D.	2.5	10.09	71	29	

(1) Certificates are awarded to growers producing 10 or more tons per acre on one or more acres with not less than 60% U. S. No. 1 grade tomatoes, when cultural records are presented by the grower (or canner) and sufficient evidence to substantiate the record is available.

* Growers whose names are followed by an asterisk have records of their production practices included in the summary, but evidence of having harvested 60% or more U. S. No. 1 was not available at the time of publication.

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INTENTIONAL SECOND EXPOSURE

POOR SOIL PREPARATION IS COSTLY

Soil containing dry, hard clods, as a result of poor fitting, does not readily absorb water, is difficult to prepare and to plant and is not likely to produce a good early growth of tomatoes.

Prepare Soil Carefully

Well-drained, medium loam to heavy soil, rich in organic matter and properly limed, was used in most cases to produce ten-ton yields. Sixty-two per cent of the ten-ton growers disced and harrowed 4 to 6 times, while in 1940 two-thirds of the ten-ton fields had only three to four discings. Soil plowed early may need additional fitting, following heavy rains or after an extremely dry period.

TOMATOES GROWN IN A POOR ROTATION

These tomatoes were planted after tomatoes, with no cover crop to prevent loss of soil fertility over winter.

GOOD SOIL PREPARATION IS PROFITABLE

Deep and early plowing, followed by a smoothing implement, gives grass and crop remains a chance to decay, conserves water and enables the grower to set tomato plants deeply.

Manure Applied When Available

Manure was applied to tomatoes by 80 per cent of the ten-ton tomato growers in 1941. Where manure is not available it is more important to grow cover crops and rotate with clover-grass sod.

Lime Used When Needed

Lime was applied on 34 per cent of the fields where ten-ton tomato crops were grown in 1941. After having the soil tested, lime was applied, usually in sufficient amounts to bring about an acidity rating of pH 6.

Fertilizer Applied Liberally for Ten-Ton Yields

An average of 838 pounds of standard fertilizer, such as a 3-12-6 which contains 21 units of plant food, were applied per acre on 587 farms or a total of 2,989.26 acres. The average pounds of actual nitrogen was 29.47, phosphoric acid, 98.97 and potash, 48.29. In addition, 469 of these farmers applied manure, a usual application being 10 tons of stable manure per acre.

In Bucks County the equivalent of 1115 pounds of fertilizer was the average application on 1,611 acres of ten-ton tomato crops. In actual plant food per acre the figures are 42 pounds of nitrogen, 112 pounds of phosphoric acid and 69 pounds of potash, or approximately a 1-3-2 ratio of nitrogen, phosphoric acid and potash.

The average total pounds of plant food per acre in Lancaster County was 167 (or 835 pounds of fertilizer), Franklin, 100 (500 pounds), Montour, 136 680 pounds), Snyder, 150 (750 pounds), Union, 175 (825 pounds), and Juniata, 198 (990 pounds).

There is an indication that larger applications of fertilizer would prove to be profitable in some of the grain-hay-livestock farming areas. Also, a large percentage of the highest yields were grown this year by commercial vegetable growers who are quite liberal in their use of fertilizer.

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INTENTIONAL SECOND EXPOSURE

APPLYING COMPLETE FERTILIZER WITH THE DRILL

To place the fertilizer down where the roots grow, the soil must be plowed deeply and be in a mellow condition. This may be done shortly after plowing or, later, following deep discing. The plowing down of complete fertilizer gave excellent results the first year of the experiment in 1941 at The Pennsylvania State College on well limed Hagerstown silt loam soil.

BETTER GROWTH OBTAINED WITH ROW AND BROADCAST APPLICATIONS OF FERTILIZER

Varieties Influenced by Soil and Climate

Rutgers was used most generally for main crop and canning. Marglobe was planted with Rutgers in a good proportion of the fields, and Pritchard was used occasionally in fertile soils where earliness of maturity was desired. Stokesdale, an improved strain of John Baer, was shown to be adapted to fertile soils in the high altitudes of the State.

Plants Deserve Better Care

The importance of well-grown, healthy plants, whatever the source, cannot be overemphasized. Prompt delivery and proper care are more essential to success than most tomato growers realize.

PROTECTING THE ROOTS OF TOMATO PLANTS

The ideal method is to set tomato plants out as quickly as possible after they have been pulled.

A carefully set plant, with the roots down in contact with moist soil and water applied if it is dry, has a chance to produce large yields in fertile soil and with good culture.

CUTWORMS TROUBLESOME

Cutworms did more than the usual damage in the 1941 season. The following information is quoted from The Pennsylvania State College Circular 122, "Insects Attacking Vegetables." "Poison Bran Mash, field dosage: bran 20 pounds, Paris green 1 pound, stock molasses 2 quarts."

"The arsenic and bran should be mixed together dry. The molasses, diluted with a small amount of water, should be stirred into the dry materials. Use enough liquid to make a stiff but not sloppy mash. Fruits of some kind, preferably lemons or oranges, or the peelings from these, increase the attractiveness of the bait."

The bait is applied, preferably, in the evening. "Cutworms are more readily attracted to it while it is fresh and moist." Some growers spread the above amount over the soil broadcast a day or two before planting and followed, if necessary, by a second application, placing a small amount near each plant. An effective method of obtaining uniform broadcast distribution is needed.

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INTENTIONAL SECOND EXPOSURE

Plant Early and Set Deeply for a Good Start

Fifty-eight per cent of the ten-ton crops were planted May 1-15, and 39 per cent May 16-31. In Bucks County 85 per cent were planted May 1-15, and 15 per cent May 16-31; in Lancaster County 60 per cent May 1-15 and 40 per cent May 16-31; in Franklin County 20 per cent May 1-15 and 80 per cent May 16-31; in Juniata County 10 per cent May 1-15 and 90 per cent May 16-31, and in Erie, Lackawanna, Lehigh, Luzerne, Mifflin and Schuylkill counties all ten-ton crops were planted May 16-31.

Setting the plants with a planter is much preferred to the hand method on account of the additional labor involved. Twenty-nine growers planted 150 acres by hand at an average of 16.79 man hours per acre and a cost of $5.04 per acre, allowing 30c per hour. Thirty growers used a transplanter with tractor power on 227 acres with an average of 6.9 man hours, and 2.58 tractor hours per acre at a cost of $4.26 per acre, allowing 85c per hour for tractor. Twenty-six growers planted 196 acres using a planter with horse power with 9.83 man hours, and 6.13 horse hours per acre at a cost of $3.87 per acre, allowing 15c per hour for horse labor.

One-half the ten-ton growers used plant starter when setting the plants.

POOR CROP PROSPECTS

The above missing hills were caused by the use of poor plants, received in poor condition and improperly handled.

Commercial fertilizer or arsenic not properly mixed with bran, in contact with plants and strong concentrations of plant starter solution not properly agitated or uniformly mixed with water may cause injury. Extreme pressure against the stem at the surface of the ground, also, is to be avoided. Tender, improperly hardened plants should not be used.

A Good Start Includes a Good Stand

Ninety-six per cent of all ten-ton tomato growers obtained a stand of 90 per cent, and 69 per cent had a 95 per cent stand. The most common number of plants per acre was about 2900—50 per cent of the growers allowing 14 to 16 square feet per plant and 35 per cent, 12 to 14 square feet.

GOOD CROP PROSPECTS

These plants were well grown, delivered promptly, and handled carefully. They were received in baskets and in good condition. Since the field was not ready for immediate planting, the plants were heeled deeply in a trench, moistening only the roots and allowing liberal space between them. They were set about four inches deep in a well prepared soil, where good rotations and soil building practices are followed.

Row applications of fertilizer high in phosphoric acid, such as 4-16-4 or superphosphate on fertile soils with manure, promote early growth, root development and the setting of tomatoes in the early blossom clusters. It is safer to apply additional nitrogen and potash either broadcast before planting or as side dressing.

CORN PLANTED WITH TOMATOES

Both the corn and tomatoes failed to grow satisfactorily on this shale loam soil in the dry season of 1941.

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INTENTIONAL SECOND EXPOSURE

Cultivate to Control Weeds

Seventy-eight per cent of the ten-ton crops were produced with three or four cultivations, and in addition weeds were removed by hand by two-thirds of these growers.

CLOSE, CAREFUL CULTIVATION THE FIRST TIME

Cultivation close to the plants the first time prevents weeds and grass from getting a start and may avoid costly hand labor later.

Side dressings of readily available nitrogen or nitrogen and potash after the first cultivation are particularly desirable on the lighter soils. Large amounts of these fertilizer ingredients should not be applied near the plants when they are set.

SHALLOW CULTIVATION CONTROLS WEEDS WITHOUT ROBBING THE PLANTS OF MOISTURE

A good set of fruit was obtained on the above plants in spite of the sudden wet, hot period last year following a period of drought. Good soil management, proper use of fertilizer, deep setting of plants and cultivation that did not cut the roots were contributing factors.

DOMESTIC RYEGRASS SEEDED IN TOMATOES

The practice of seeding 25 pounds of domestic ryegrass in tomatoes is becoming increasingly popular, particularly where the rotation is not adapted to the seeding of wheat or other small grain crop following tomatoes.

Utilize Soil Fertility Left by the Tomato Crop

TOMATO VINES DECAY WHEN PLOWED DOWN

A large amount of organic matter and much of the fertilizer applied to the crop is contained in the remaining plants of a ten-ton tomato crop. These decay more completely and more quickly when plowed down, improving the soil and leaving fewer disease organisms on the soil surface to be spread to adjoining fields or carried over to succeeding crops.

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INTENTIONAL SECOND EXPOSURE

Plan for Easy Picking

GOOD CULTURE PRECEDES GOOD PICKING

* * *

Proper spacing of the rows not only makes it easier to control weeds with cultivating equipment available, but also enables the pickers more easily to avoid injury to the plants and unripened fruit. Four feet or more is the usual distance between rows, while the space between plants varies from three to four feet. Fourteen to sixteen square feet per plant was the space allowed by 50 per cent of the ten-ton tomato growers in 1941, while 35 per cent allowed 12 to 14, only eight per cent under 12 and seven per cent over 16.

Tomatoes of high quality are produced only on healthy, vigorous plants with adequate foliage for producing and ripening the fruit. Careful seed selection, the use of well-grown and carefully handled plants, proper soil management and clean cultivation are all contributing factors in producing continued vigorous growth, overcoming unfavorable weather conditions and lessening the amount of deep cracking, blossom-end rot and other defects.

Adequate foliage protection is necessary for the development of color and flavor. Tomato temperatures have been lowered as much as 15 to 25 degrees Fahrenheit when adequately protected by foliage. In hot summer weather this is important, because poor color and unsatisfactory flavor are caused when tomato temperatures are above 90 degrees Fahrenheit for a considerable period of time. A tomato changes gradually from green to yellowish red and finally a bright red color. Color blinded persons cannot pick tomatoes satisfactorily.

Usually tomatoes should be picked about every four days in warm wet weather but once a week is sufficient in normal weather. The time a tomato will remain a red ripe, U. S. No. 1 fruit is about 6½ days under average conditions, but this varies from about 2½ to 9½ days, being longer in a moderately dry season.

SAMPLING FOR INSPECTION

Proper loading means easier handling and less injury to tomatoes. Boards are not required between the layers of tomato baskets in either of the large loads of tomatoes shown on this page. Cleats are used to hold the baskets together in the load shown above, while a specially constructed base makes possible the loading arrangement shown below.

The baskets are filled only even with the top to prevent injury.

LARGE LOADS MEAN LESS EXPENSE PER TON IN HAULING THE CROP

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INTENTIONAL SECOND EXPOSURE

TOMATO GROWERS have increased their yields from 1 to 3 tons per acre by plowing down 200 pounds of Granular 'Aero' Cyanamid per acre with crop wastes, cover crops, and manure, in addition to the conventional fertilizer application at planting.

In 1941 as an average of 15 accurately checked tests, 200 pounds of Cyanamid plowed down increased the tomato yield from 10.63 tons to 12.17 tons—a gain of 1.54 tons per acre.

AMERICAN CYANAMID COMPANY

30 Rockefeller Plaza **New York, N. Y.**

Compliments of

LANCASTER BONE FERTILIZER CO., INC.

Manufacturer of

CONESTOGA BRAND FERTILIZERS

Quarryville, Pa.

I. P. THOMAS & SON COMPANY

721 Market Street, Camden, N. J.

FERTILIZERS FOR ALL PENNSYLVANIA CROPS—"Since 1868"

F. W. TUNNELL & COMPANY, INC.

15 North Fifth Street, Philadelphia, Pa.

Manufacturers of ANIMAL MATTER FERTILIZERS—The Balanced Ration Plant Food—Since 1900. Make sure of your fertilizer this year—everything counts for **Victory.**

HARRIS' ....

Special Northern Grown Strains of Tomato, Sweet Corn, Pepper, Muskmelon and Parsnip seed make money for vegetable growers.

Ask for our Market Gardeners' catalogue.

JOSEPH HARRIS CO., INC.

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Our New Jersey certified Marglobe and Rutgers, as well as Pritchard, seed is produced from stock seed, bred and grown in Pennsylvania, at Fordhook Farms, near Doylestown, from carefully selected foundation lines. At the present time we are giving our tomato stocks more attention than any other class and we feel that in the past five years we have made some real progress in strain improvement.

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SEED GROWERS

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Flowering and vegetable plants—prepaid. Wholesale and retail. Disease free tomato plants a specialty.

GLICK'S PLANT FARM

Smoketown, Lancaster County, Pa.

Improved strains of Rutgers, Marglobe, Grothens (Red) Globe, certified, grown on separate farms, and grown from healthy plants, started in steam sterilized soil and sprayed.

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QUALITY SEEDS

They Grow Better — They Yield Better

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Riverside Manufacturing Company of N. J., Inc.

Locust Street, Moorestown, N. J.

A direct factory branch of Riverside Manufacturing Co., Inc., Murfreesboro, North Carolina, the largest individual manufacturer of 5/8 tomato baskets in the world. We distribute all types of packages and packing supplies.

PICK FOR PROFIT

CAREFULLY PICKED TOMATOES

Specifications of U. S. Grades of tomatoes may be found in "Handbook of Pennsylvania Standards for Grading and Marketing Fruits and Vegetables," Commonwealth of Pennsylvania, Department of Agriculture, Harrisburg, Pa. The following is an abstract of this information on tomatoes for canning and the manufacture of strained products.

CANNING TOMATOES

U. S. No. 1—At least 90 per cent good red color, firm (not soft, puffy, shriveled or water soaked), free from molds and decay and not over 10 per cent loss by weight caused by defects.*

U. S. No. 2—At least two thirds good red color and not over 20 per cent loss by weight caused by defects.*

Minimum Size—Fixed by agreement between the buyer and seller.

Cull—Any tomato having less than two thirds good red color, smaller than the minimum size agreed upon, or more than 20 per cent loss by weight caused from defects.*

TOMATOES FOR THE MANUFACTURE OF STRAINED PRODUCTS

U. S. No. 1—At least 90 per cent good red color, fairly firm (not water soaked), free from stems and not over 10 per cent loss by weight caused by defects.*

U. S. No. 2—At least two thirds good red color, and not over 20 per cent loss by weight caused by defects.*

Cull—Any tomato having less than two thirds good red color or more than 20 per cent loss by weight from defects.*

* Principal defects include growth cracks, worm holes, cat-faces, sunscald, freezing injury or mechanical injury.

COLOR PLATE

END OF YEAR